INFECTION – Clinical Outcomes Studies

PIN1

MALARIA DIAGNOSIS AND TREATMENT PRACTICE FOLLOWING INTRODUCTION OF RAPID DIAGNOSTIC TEST IN SELECTED HEALTH POSTS OF ADAMA WOREDA, EAST SHEWA ZONE, OROMIA REGION,CENTERAL ETHIOPIA

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OBJECTIVES: To assess malaria diagnosis and treatment practices following introduction of rapid diagnostic test in Adama district health posts, central Ethiopia. **METHODS:** A Cross-sectional study was conducted from January 24 to February 9, 2014 among febrile patients, and caretaking health workers to determine the perceptions and practices related to rapid diagnostic tests (RDTs). Moreover, the treatments prescribed were assessed at the selected Health posts. From the total of 37 health posts in Adama district, 10 health posts were selected by simple random sampling technique. All the patients who visited the health posts during the study period and all health service providers working in the selected health posts were included in the study. **RESULTS:** The survey was undertaken at ten health posts which use RDT for parasitological confirmation. Twenty health workers and 104 patients were interviewed at health posts. Eighty three patients (79.8%) were seen in health posts with available parasite based diagnostic test (i.e. RDT)) and 21(20.2%) in facilities without RDT. The overall malaria positivity rate was 48(57.8%). Anti–malaria drugs were prescribed to all 48(100%) patients with positive RDT and to 19(54.3%) of RDT negative patients. Among non-tested patients, anti-malaria drugs were given to 12(57.1%), with a higher prescription rate in health posts without RDTs results. Among 104 patients presenting with fever or history of fever, 64(61.5%) were prescribed with antibiotics and anti-pain. **CONCLUSIONS:** Findings from this study show that over prescription with anti-malarial drugs is common in Adama district health posts. The use of rapid malaria diagnostics was also associated with higher prescription of antibiotics among patients with negative test results. The Adama district health office should provide on job and other capacity building trainings for health workers on RDTs, the diagnosis and management of other causes of fever and the importance of adhering to test results.

PIN2

EFFECT OF TRANSFER FACTOR ON THE REDUCTION OF THE NUMBER OF EPISODES OF RECURRENT INFECTIONS IN ADULT AND PEDIATRIC PATIENTS FROM A MULTICENTRE OBSERVATIONAL STUDY

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OBJECTIVES: To assess the effect of human leukocyte transfer factor for parenteral use (TF) in adult and pediatric patients suffering from cellular immunodeficiency (CID) in whom TF had been indicated for treatment of respiratory and/or urinary tract infections, prostatitis and/or vulvovaginitis episodes. **METHODS:** Observational multicenter retrospective study in subjects being treated with TF in the period from September 2012 to April 2013 in Slovakia. The primary objective was to evaluate the effectiveness by assessment of the number of documented infections over one year since the treatment began as compared to the last year of the pre-treatment period. Moreover, the resource use and QoL assessment was conducted using EQ-5D. **RESULTS:** The sample (98 analyzed patients) in 9 centers was predominantly female (75.5%) and the average age was 46.6, with a range of 7 to 82. The most common recurrent episodes were respiratory tract infections occurring 5 (472/96 with infection) times at average in the year before TF initiation (96 patients), followed by urinary tract infections (n=38) and vulvovaginitis episodes. The significant reduction was observed in all three types of recurrent infections after treatment with TF (prostatitis not analyzed). Respiratory tract infections where reduced from 5 to 2 a year after, in contrast to the period before initiation of TF application ($p<0.001$). Significant reduction was achieved in urinary tract infections and vulvovaginitis episodes ($p<0.001$). Reduction was accompanied by a lower resource use, measured by the need of antibiotics and hospitalizations. The median of parenteral TF doses was 8 injections for a full study period (maximum 2 years). **CONCLUSIONS:** The conducted study showed that leukocyte human TF helps to reduce recurrence of episodes of infections in adult and pediatric patient with CID. Besides clinical and resource outcomes, the contribution of this study is the elicitation of utility values for CID of different severity.

PIN3

SYSTEMATIC REVIEW AND META-ANALYSIS OF EFFICACY AND SAFETY OF SIMEPREVIR AND SOFOSBUVIR FOR HCV GENOTYPE 1 INFECTION

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OBJECTIVES: To evaluate the efficacy and safety of the second-wave direct-acting antivirals simeprevir and sofosbuvir in patients with HCV genotype 1 infection through a systematic review and meta-analysis of randomized clinical trials (RCTs). **METHODS:** Electronic searches were performed in databases MEDLINE, International Pharmaceutical Abstracts (IPA), Cochrane Library, SCIELO and Scopus. Statistical analyses were executed using the software Review Manager version 5.3. **RESULTS:** 774 articles were identified, of which 10 RCTs were selected for data extraction and statistical analysis. Simeprevir 100 mg promoted better RVR and SVR24 Resultsthan placebo, and simeprevir 150 mg was superior to placebo for the following outcomes: RVR, SVR12, SVR24, SVR12 rates according to METAVIR score for the subgroups F0-F2, F3 and F4, SVR12 rates according to HCV genotype for both genotype 1a and genotype 1b, SVR12 rates for HCV genotype 1a without baseline Q80K and SVR12 according to IL28B genotype for CC, CT and TT. More viral relapse events were observed in the placebo group, for both evaluated doses. There were no significant differences for all of the evaluated safety outcomes between the simeprevir 100 mg and the placebo groups, and for almost all evaluated safety outcomes between the simeprevir 150 mg and placebo groups. Sofosbuvir promoted better RVR, SVR12 and SVR24 than placebo. There was no difference in the safety of sofosbuvir and placebo groups for the majority of evaluated outcomes. **CONCLUSIONS:** Our meta-analysis indicates promising efficacy and a good safety profile of simeprevir for both evaluated doses. Data concerning sofosbuvir reveal the benefits of this drug in hepatitis C virus genotype 1 treatment, also in safety terms.

PIN4

ASSOCIATED FACTORS THE VIROLOGIC SUCCESS IN A GROUP OF PATIENTS WITH HUMAN IMMUNODEFICIENCY VIRUS, MANAGED BY A CARE TEAM INTEGRAL, EPS|SURA MEDELLIN 2010-2013

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INTRODUCTION: the probability of occurrence of virological failure in patients diagnosed with HIV in ARV drug treatment of first and second line is 0.15 and 0.46 respectively, produce the emergence of viral resistance, loss of future schemes, increased hospital admissions, disease progression and death. **OBJECTIVES:** To determine the associated factors that explain the virological success and the time needed to reach it. **METHODS:** Type of study: retrospective cohort survival analysis. Type of patients: belonging to EPS|SURA regional Medellin, diagnosed with HIV and exposed to first time antiretroviral therapy. Variables: dependents (virologic success and time required to reach it) and independents (sociodemographic, clinical and pharmacotherapeutic). Analysis:frequencies, summary measures, and Kaplan Meier for the univariate stage, chi square, Student's t test or Mann-Whitney U and Log Rank Test for the bivariate phase, proportional hazards model and multiple logistic regression in multivariate phase. **RESULTS:** 97% of patients achieved virologic success, needed 209 days (SD±10.14). Patients had a 95% probability of achieving virological success in the first 8.5 months. Properly use drugs was associated with a shorter time to achieve virologic success HR 2.68 [1.22-5.90] and a greater number of problems with drugs was associated with a longer time HR 0.60 [0.43-0.83]. **CONCLUSIONS:** virological success was higher than the studies found, which was obtained in a short time and was maintained throughout the observation period. The variables in this study were not associated with virologic success but were associated with a shorter time to reach it.

PIN5

UTILIZACION DE ANTIBACTERIANOS DE USO RESTRINGIDO EN PACIENTES ADULTOS HOSPITALIZADOS EN EL HOSPITAL LAS HIGUERAS - TALCAHUANO

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OBJECTIVOS: Estudiar la evolución del consumo de antibacterianos de uso restringido en pacientes adultos hospitalizados durante el periodo 2005 al 2012, en el hospital Las Higueras de Talcahuano. **METODOLOGÍAS:** Se realizó un estudio retrospectivo durante los años 2005 - 2012, del consumo mensual de antibacterianos de uso restringido. Los antibacterianos considerados fueron clasificados según el sistema ATC/DDD. Se incluyo vancomicina, carbapenémicos (imipenem, ertapenem y meropenem) y cefalosporinas de tercera generación (ceftriaxona, ceftazidima y cefotaxima). Se determinó la densidad de consumo expresado en porcentaje y en términos del número de DDD/100 días-cama-ocupados. La evolución del consumo se determinó calculando diferencia porcentual entre los año 2005 y 2012. La comparación de los consumos se realizó con la prueba t-test. Se consideró diferencias significativas con un nivel de significancia de $p<0.05$. **RESULTADOS:** Ceftriaxona fue el antibacteriano con mayor consumo total (63%) (292,4 DDD/100 días-cama-ocupados) seguido por vancomicina (17%) (77,13 DDD/100 días-cama-ocupados). Por su parte, el servicio de paciente crítico y de cirugía mostraron el mayor consumo de antibióticos, con un total de 150 DDD/100 días-cama-ocupados (54%) y 54 DDD/100 días-cama-ocupados (20%) respectivamente. En relación a la evolución del consumo, se observó un incremento significativo en el consumo de vancomicina (+67%; $p<0,05$), imipenem (+62%; $p=0.004$), meropenem (+84%; $p=0.006$) y ceftriaxona (+44%; $p=<0.05$). **CONCLUSIONES:** El consumo de todos los antibióticos estudiados aumento significativamente, especialmente ceftriaxona, vancomicina y carbapenémicos. La consecuencia de este consumo pudiera significar un aumento de la resistencia bacteriana intrahospitalaria y los costos asociados en la atención de salud, por lo que se sugiere su estudio.

PIN6

DOES USE OF CALCIUM CHANNEL BLOCKERS AFFECT THE RISK OF INCIDENT ACTIVE TUBERCULOSIS DISEASE? A NESTED CASE CONTROL STUDY ON A NATIONAL HEALTH CLAIM DATABASE

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BACKGROUND: It is World Health Organization's Global Plan to eradicate Tuberculosis (TB) disease by the year of 2050, but it is difficult to achieve that goal by the current rate of infection decrease. Our goal is to evaluate whether calcium channel blocker, an existing cardiovascular drug can affect the onset of active TB. **OBJECTIVES:** To evaluate whether the use of different classes of calcium channel blockers (CCBs) affect the risk of incident active tuberculosis disease. **METHODS:** A nested case control study was carried out using the claims data from National Health Insurance Research Database of Taiwan between January 1997 and December 2011. Index date referred to the first date of TB diagnosis. Patients with CCBs exposure were defined by receiving ≧ 7 days of prescription ending in 3 different time frames. Current use refers to prescription that ended within 30 days of the index date. Multivariate regression and a disease risk score (DRS) technique were used to calculate risk of active TB disease. **RESULTS:**

From a cohort of one million patients with 13 years follow-up, 7164 cases of new active TB and 716,400 controls were identified. Use of dihydropyridine class of CCBs, but not phenylalkylamine and benzothiazepine CCBs were associated with lower risk of active TB. Current use of dihydropyridine was associated with lower risk of active TB before (0.75 ; 95%CI, 0.69 – 0.82) and after DRS adjustment (0.70 ; 95%CI, 0.64 – 0.77). Dose response analysis suggested that longer term use of dihydropyridine can lead to even lower risk of active TB. **CONCLUSIONS:** Our novel Resultssuggest that use of dihydropyridine class of CCBs decrease the risk of active TB. However, more studies are required to validate our Resultsbefore recommending CCBs to cardiovascular patients at high risk of TB.

PIN7

TREATMENT OUTCOMES AMONG HIV/AIDS PATIENTS TREATED DURING HAART THERAPY AT INFECTIOUS DISEASE CLINIC

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OBJECTIVES: Current study is aimed to explore and to observe clinical treatment outcomes during HAART therapy among HIV/AIDS patients **METHODS:** An observational retrospective study of all patients diagnosed of HIV infection and on HAART therapy from Jan 2007 to Dec 2012 was conducted at infectious disease department of Hospital Pulau Pinang, Malaysia. Patient socio-demographic details along with clinical features were recorded. Data was descriptively analyzed by using statistical package for social sciences (SPSS 20) **RESULTS:** Out of 792 patients that underwent HAART therapy, 607 (76.6%) were male and 185 (23.3%) were female patients. The treatment outcome of the total study population (792) on the basis of recovery of CD4 cells count to the normal range was (≥350 cells/mm3). Out of total patients (792), 645 (81.4%) patients improved their CD4 cells count under the treatment of HAART therapy out of which 488 (61.6%) male and 157 (19.8%) female patients were improved to a normal range of CD4 cells count. On binary logistic regression both Malay (OR 2.32, p <0.001) and Chinese patients (OR 0.37, p <0.001) were found to be statistically significant. Patients having age less than 30 years (OR 0.58, p 0.09), with secondary education level (OR 0.44, p 0.001), and Graduate patients (OR 0.50, p 0.09) were also have a signification association with treatment outcomes. Non-smokers (OR 2.16, p 0.001), non-alcoholic (OR 1.42, p 0.05) and non-drug abusers were also found to be statistically significant **CONCLUSIONS:** The study indicates the clinical treatment outcomes in non-smokers, non-alcoholics and non-drug abusers HIV patients were higher. Also indicate a significant treatment outcomes on educated patients which may be due to the awareness about the infection. However, a multicenter study with a large sample size may provide us with better understanding of this relationship

INFECTION – Cost Studies

PIN8

ANALISIS DE IMPACTO PRESUPUESTAL DEL USO DE DACLATASVIR+ASUNAPREVIR EN EL TRATAMIENTO DE PACIENTES CON HEPATITIS C EN COLOMBIA

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OBJECTIVOS: Estimar el impacto per cápita año a año de la utilización de daclatasvir+asunaprevir en pacientes con hepatitis C, frente tratamientos convencionales, en el sistema de salud Colombiano. **METODOLOGÍAS:** A partir de un modelo de costo-utilidad que demuestra la dominancia de daclatasvir+asunaprevir(D/A) en el tratamiento de pacientes con hepatitis C, sobre peginterferon alfa+ribavirina, más telaprevir o boceprevir, se realizó un análisis de impacto presupuestal para un quinquenio, considerando costos directos en salud, desde la perspectiva de un tercer pagador. Los costos de servicios fueron extraídos de bases de datos de aseguradores colombianos, las frecuencias de uso fueron calculadas mediante opinión de expertos. Los costos de medicamentos, se estimaron con base en el Sistema de Información de Precios de Medicamentos de Colombia. Se analizaron dos escenarios, en el actual el 100% de los pacientes son tratados con telaprevir+A/R o boceprevir+A/R; mientras en el escenario nuevo se trabaja con tasas de reemplazo del 30% y 50% de uso de D/A. **RESULTADOS:** Dado un estimado de 1.500 pacientes que pueden ser objeto de la tecnología, el impacto presupuestal a tasas de reemplazo del tratamiento actual del 30 y 50% por (D/A) para el primer año, sería de $3.300.602.149 y $5.501.003.583, respectivamente. No obstante, a partir del segundo año y hasta el quinto año la inclusión de D/A, genera un ahorro acumulado de $925.729.468 y $1.542.882.448, bajo tasas del 30 y 50% de reemplazo respectivamente. De esta manera, el impacto per cápita acumulado al quinto año es de $49,48 y $82,46 pesos, bajo tasas del 30 y 50% de reemplazo **CONCLUSIONES:** A partir del segundo año de la inclusión de D/A se comienzan a generar ahorros por la tecnología, alcanzando al quinto año un gasto per cápita no mayor de $49,48 y $82,46 dependiendo del porcentaje de pacientes que se tengan en el medicamento.

PIN9

INCREASED USAGE OF CALCIUM FREE BALANCED SOLUTIONS (BAL) IN LIEU OF 0,9% SALINE IN PATIENTS MEETING SIRS (SYSTEMIC INFLAMMATORY RESPONSE SYNDROME) CRITERIA: A PRIVATE BRAZILIAN HOSPITAL PERSPECTIVE

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OBJECTIVES: The study aimed to assess the economic implications of increasing usage of calcium free balanced solutions (BAL) for IV fluid therapy on costs of fluids and avoidance of fluid-related adverse outcomes in SIRS patients from a Brazilian hospital perspective. **METHODS:** An Excel®-based budget impact model (BIM) was developed to assess the impact of increased usage of BAL fluids in SIRS patients versus 0,9% saline on the costs of IV fluids and costs associated with fluid-related complications. The target population was adult patients (age ≥18 years) meeting SIRS criteria and receiving solely crystalloid IV fluids. The interventions compared were: patients mainly receiving BAL fluid mix versus patients receiving IV fluid therapy without BAL fluid mix considering an increasing adoption rate over 5-year period. **RESULTS:** The base case was defined as a 300-bed hospital with 90% occupancy, a 2.7% SIRS frequency among inpatients, current BAL adoption level of 2%, projected year 5 BAL adoption levels of 20%. The patient number per month requiring fluid resuscitation calculated was 47 (564 per year). The overall savings were calculated by subtracting the costs of complications and treatments associated with BAL adoption level for a given year from costs associated with current BAL adoption level and adding the incremental costs. The 72-hour fluid cost increased from R$ 1.480 (year 1) to R$ 3.552 (year 5). The cumulative hospital savings versus current usage were estimated to be R$ 98.737 by year 1 and ~R$ 1.6 M by year 5. At the pharmacy level estimated total cumulative savings were R$ 11.577 in the first year and R$ 194.866 over the 5 year period. **CONCLUSIONS:** Despite the incremental cost on fluid therapy, increased usage of BAL in SIRS patients versus current BAL usage was demonstrated to be a cost saving strategy for the hospital and consequently for the healthcare system.

PIN10

ESTIMACI"N DE COSTOS DIRECTOS ASOCIADOS AL CAMBIO DE TERAPIA IV A ORAL EN INFECCI"N COMPLICADA DE PIEL Y TEJIDOS BLANDOS EN CHILE

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OBJECTIVOS: La incidencia infecciones de piel y tejidos blandos producidas por S. aureus meticilino resistente (SARM) ha aumentado en los últimos años, para su tratamiento se recomienda el uso de antibióticos de amplio espectro con cobertura de SARM como linezolid y vancomicina. El objetivo de este estudio es determinar el costo asociado al uso de vancomicina IV monoterapia vs cambio temprano a linezolid oral en el tratamiento de infecciones de piel y tejidos blandos en instituciones de salud privadas en Chile **METODOLOGÍAS:** Se realizó un modelo de estimación de costos para determinar el diferencial al realizar el cambio de terapia IV a oral por persona. Los comparadores incluidos fueron vancomicina (1gr c/12hr) y linezolid oral (600 mg BID) La perspectiva del análisis fue la de las instituciones Privadas de Salud (ISAPREs) en Chile. Los costos directos incluidos corresponden a los medicamentos en comparación y a la estancia hospitalaria durante la administración del medicamento IV; fueron obtenidos de aranceles oficiales para la estancia hospitalaria y del reporte del canal privado para los medicamentos. El horizonte de tiempo del análisis fue 14 días **RESULTADOS:** Los costos directos asociados a vancomicina IV (monoterapia) durante 14 días fueron $2.765.000 por paciente, al realizar el cambio de vancomicina IV a linezolid oral los costos variaron entre $2.643.500 y $1.428.500 al realizar el cambio entre el día 13 al día 3, respectivamente. Al realizar el cambio de terapia IV a oral, se liberaría la disponibilidad de días-cama en las instituciones (costo de oportunidad) **CONCLUSIONES:** Al realizar el cambio de vancomicina IV a linezolid oral se generaría un ahorro de 4% a 48% en comparación con la monoterapia de vancomicina, el costo de oportunidad por tener los pacientes con medicación IV son los días-cama que se pueden liberar al realizar el cambio temprano de vía de administración IV a oral.

PIN11

COSTO DE ENFERMEDADES METAXENICAS EN LOS ESTABLECIMIENTOS DE SALUD DEL PERÚ

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OBJECTIVOS: Estimar los costos de las Enfermedades Metaxénicas (EMTX) en los establecimientos del Ministerio de Salud del Perú. **METODOLOGÍAS:** Se realizó una evaluación económica parcial de tipo costo de enfermedad (CE). La población de estudio fue una cohorte hipotética de pacientes con EMTX afiliada al Seguro Público de Salud (Seguro Integral de Salud). Los costos se estimaron desde la perspectiva del financiador tomados para el año 2014. La definición de los esquemas de manejo clínico (procedimientos médicos y medicamentos para prevención, diagnóstico, tratamiento y seguimiento de la enfermedad) provienen de las Condiciones Asegurables del Plan Esencial de Aseguramiento en Salud (PEAS). Cada esquema de manejo clínico se ha estimado con la metodología de costeo estándar. El costo total fue ajustado por factores de oferta, demanda y adherencia. **RESULTADOS:** La cohorte hipotética de EMTX es de 396,592 personas para el año 2014, de las cuales 5,434 corresponden a Dengue; 575 a Bartonelosis; 34,371 a Fiebre Amarilla; 91,982 a Tripanosomiasis; 11,131 a Leishmaniosis; y 253,099 a Malaria; (Incidencia de Dengue: 0.05%, Incidencia de Bartonelosis: 0.03%, Incidencia de Fiebre Amarilla: 0.0004%, Incidencia de Tripanosomiasis: 0.85%, Incidencia de Leishmaniosis: 0.04%, Incidencia de Malaria vivax: 0.23%, incidencia de malaria falciparum: 0.01%). El costo total para EMTX es de 6,309,054 dólares correspondiendo para Dengue 320,535 dólares, Bartonelosis 193,488 dólares, Fiebre Amarilla 296,326 dólares, Tripanosomiasis 3,142,325 dólares, Leishmaniosis 68,285 dólares y para Malaria es de 2,288,096 dólares. El costo total correspondiente a prevención es 2,121,011 dólares (33.6%), diagnóstico 1,195,563 dólares (18.9%), tratamiento 1,297,189 dólares (20.6%) y para seguimiento 1,695,292 dólares (26.9%). El costo fijo correspondió a 3,387,381 dólares (53.7%) y el costo variable a 2,921,693 dólares (46.3%). **CONCLUSIONES:** El costo anual total para Enfermedades Metaxénicas se estimó en 6,309,054 dólares. Este monto representa el 5.8% del presupuesto anual 2014 del Programa Presupuestal Enfermedades Metaxénicas y Zoonosis.

PIN12

COSTOS ECONÓMICOS DE LA OTITIS MEDIA AGUDA. UNA REVISIÓN DE LA LITERATURA

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